C-130H Hercules #439 05/15/15

Aircraft:
C-130H Hercules #439 (See full schedule)
Flight Number:
North-Central Gap 01
Payload Configuration:
OIB
Nav Data Collected:
No
Total Flight Time:
7.3 hours
Submitted by:
Luci Crittenden on 05/15/15
Flight Segments:

From:	BGTL	**To:**	BGTL
Start:	05/15/15 10:47 Z	**Finish:**	05/15/15 18:05 Z
Flight Time:	7.3 hours		
Log Number:	151002	**PI:**	Michael Studinger
Funding Source:	Bruce Tagg - NASA - SMD - ESD Airborne Science Program		
Purpose of Flight:	Science		
Comments:	OIB completed the North Central Gap 01 mission today after being down for 2 days for repair of an engine pressure switch and wiring. Tomorrow is a no fly day since Thule runways are closed for the weekend. Sunday is a hard down day for crew rest. Science flights will resume on Monday, May 18.		

Flight Hour Summary:

	151002
Flight Hours Approved in SOFRS	334.4
Total Used	297.6
Total Remaining	36.8

151002 Flight Reports

Date	Flt #	Purpose of Flight	Duration	Running Total	Hours Remaining
03/12/15	ATF	Check	1.5	1.5	332.9
03/13/15	PTF - GPS	Check	2	3.5	330.9
03/13/15	PTF - Radar #1	Check	0.8	4.3	330.1
03/13/15 - 03/14/15	PTF - Radar #2	Check	4.5	8.8	325.6
03/16/15	PTF - Radar #3	Check	2.4	11.2	323.2
03/17/15	Transit	Transit	7.8	19	315.4
03/19/15	Nansen Gap	Science	7.4	26.4	308
03/24/15	Sea Ice - Zigzag East	Science	8.2	34.6	299.8
03/25/15	Sea Ice North Pole Transect ? Thule	Science	8.2	42.8	291.6
03/26/15	Sea Ice - Laxon Line	Science	9.2	52	282.4
03/27/15 - 03/28/15	Sea Ice - East Beaufort Sea	Science	8.2	60.2	274.2
03/29/15 - 03/30/15	Sea Ice - North Beaufort Loop	Science	8.9	69.1	265.3
03/30/15 - 03/31/15	Sea Ice - SIZRS Zigzag	Science	8.1	77.2	257.2
04/01/15	Sea Ice - South Basin Transect	Science	8.8	86	248.4
04/03/15	Sea Ice - South Canada Basin	Science	7.4	93.4	241

04/06/15	OIB Transit from BGTL-BGSF	Transit	3.3	96.7	237.7
04/08/15	Helheim-Kangerdlussuag	Science	8	104.7	229.7
04/09/15	K-EGIG Summit	Science	8.3	113	221.4
04/10/15	Southeast Glaciers 01	Science	8	121	213.4
04/11/15	East Glaciers 01	Science	8	129	205.4
04/13/15	Southeast Coastal	Science	7.7	136.7	197.7
04/14/15	Helheim-Kangerdlussuaq Gap B	Science	7.9	144.6	189.8
04/17/15	Umanaq B	Science	7.5	152.1	182.3
04/18/15	Southwest Coast A	Science	8.1	160.2	174.2
04/20/15	Penny 01	Science	6.3	166.5	167.9
04/21/15	Thomas-Jakobshaven 01	Science	8.7	175.2	159.2
04/22/15	Southeast Flank 01	Science	7.6	182.8	151.6
04/23/15	Jakobshavn-Eqip-Store	Science	9.2	192	142.4
04/24/15	Geikie 02	Science	8.3	200.3	134.1
04/25/15	Jakobshaven 02/ Mop Up	Science	6.9	207.2	127.2
04/27/15	Southwest Coastal B	Science	8	215.2	119.2
04/28/15	Southeast Glaciers 02	Science	7	222.2	112.2
04/29/15	TRANSIT BGSF-BGTL	Transit	2.5	224.7	109.7
04/30/15	ATM Laser Repair Checkout	Science	2.3	227	107.4
05/01/15	NW Coastal A	Science	7.2	234.2	100.2
05/05/15	IceSat-2 North / CryoSat-2 SARIn	Science	8.2	242.4	92
05/06/15	North Glaciers 01	Science	8.2	250.6	83.8
05/07/15	Devon-Barnes 01	Science	7.8	258.4	76
05/08/15	Zigzag West	Science	7.2	265.6	68.8
05/11/15	Northwest Glaciers 01	Science	7.8	273.4	61
05/12/15	North-Central Gap 02	Science	8.1	281.5	52.9
05/15/15	North-Central Gap 01	Science	7.3	288.8	45.6
05/21/15	Transit - Thule to Bangor, ME	Transit	6.5	295.3	39.1
05/22/15	Transit - Bangor, ME to WFF	Transit	2.3	297.6	36.8

Flight Reports began being entered into this system as of 2012 flights. If there were flights flown under an earlier log number the flight reports are not available online.

Related Science Report:

OIB - C-130H Hercules #439 05/15/15 Science Report

Mission:
OIB
Mission Summary:

Mission: North Central Gap 01 (priority: high)

This mission, along with the North Central Gap 02 and 03 missions, are primarily designed to fill a gap in altimetry and radar coverage of the north-central portion of the ice sheet. The flight was modified for 2015, where we removed the centerlines of Zachariae and Storstrommen Glaciers (covered in other flights), and added reflights of four 2010 grid lines on the upper Zachariae/79N catchment, extended upstream centerlines of both glaciers, and flowlines passing through the TUNU and B19 core sites.

Weather was a major challenge again today. Our sea ice targets in the Canada Basin were covered either with sea fog or by an oncoming low pressure system near the Pole. Most of Greenland's western flank was covered in cloud and fog, the far north was similarly covered, and the northeast was partially covered with high clouds. The lower portions of Zachariae, 79N, and Storstrommen Glaciers were covered in fog blowing ashore from a

persistent offshore fog bank. The high clouds to the northeast were in the process of exiting to the north this morning, but the fog was unchanging. In addition, we cannot fly here for the next two days due to the weekend airport closure, and a major storm is forecast to cover most of Greenland starting on Monday. With our last science flight scheduled for Wednesday, it was possible that today was our last opportunity to fly in Greenland. With one baseline-priority flight concentrating on lower Zachariae and 79N Glaciers and one high-priority flight concentrating on the upper portions of these two glaciers, we felt it was critical to address at least one of these missions and obtain whatever science data we could given the poor conditions. Since the morning satellite images showed the lower portions of the two glaciers to be completely fogged while the upper parts were largely clear, we had little choice but to select the high-priority flight and eschew the baseline flight for today. We lost the western portions of both of the long east-west ice sheet transects to the poor weather in the west, but we lost only the lowest portions of one grid line and portions of the two upper centerline extensions of Zachariae and 79N to the persistent fog there. The remainder of today's science lines were clear. We estimate successful data collection over approximately 80% of the lines, in total.

All instruments performed normally today. A number of modifications were made to the T5 laser controller after the last flight, and although we were unable to identify the root cause of the occasional power-offs that sensor suffered previously, we did not see any recurrences today. Our hope is that one or more of the modifications addressed the root problem.

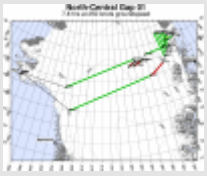
We conducted a ramp pass at 1000' AGL.

Data volumes:
ATM: 22 Gb
CAMBOT: 79 Gb
DMS: 91 Gb
Ku-Band Radar: 160 Gb
MCoRDS: 1.8 Tb
Narrow Swath ATM: 31 Gb
NSERC Onboard Data: TBD
Snow Radar: 160 Gb

total data collection time: 5.9 hrs

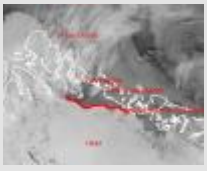
Images:

Map of North-Central Gap 01



Read more

Annotated water vapor weather satellite image



Read more

Fog and hills near Zachariae Glacier

Read more

Submitted by:
John Sonntag on 05/16/15

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